



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0801; Product Identifier 2017-NM-147-AD; Amendment 39-19632; AD 2019-08-11]**

**RIN 2120-AA640**

**Airworthiness Directives; Bombardier, Inc., Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2008-24-14, which applied to all Bombardier, Inc., Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. AD 2008-24-14 required revising the instructions for continued airworthiness to incorporate certain airworthiness limitations for the main landing gear (MLG) trunnion fitting assembly. This AD requires revising the maintenance or inspection program, as applicable, to incorporate certain airworthiness limitations (AWLs). This AD also requires reworking the trunnion fitting in order to meet new structural safe-life limits. This AD was prompted by reports of cracks on the MLG trunnion fitting during fatigue testing; the introduction of new AWL tasks with revised inspection, modification, and safe-life requirements; and a determination that the trunnion fitting lower flange and both

forward and aft bore holes are also subject to fatigue cracking. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of December 19, 2008 (73 FR 73785, December 4, 2008).

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0801.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0801; or in person at Docket

Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2008-24-14, Amendment 39-15758 (73 FR 73785, December 4, 2008) (“AD 2008-24-14”). AD 2008-24-14 applied to all Bombardier, Inc., Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. The NPRM published in the Federal Register on October 1, 2018 (83 FR 49317). The NPRM was prompted by reports of cracks on the MLG trunnion fitting during fatigue testing; the introduction of new AWL tasks with revised inspection, modification, and safe-life requirements; and a determination that the trunnion fitting lower flange and both forward and aft bore holes are also subject to fatigue cracking. The NPRM proposed to require revising the maintenance or inspection program, as applicable, to incorporate certain AWLs. The NPRM also proposed to require reworking the trunnion fitting in order to meet new

structural safe-life limits. We are issuing this AD to address fatigue cracking of the MLG trunnion fitting. Failure of the MLG trunnion fitting could result in MLG collapse.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2017-27, dated August 2, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. The MCAI states:

Cracks on the main landing gear (MLG) trunnion fitting web discovered during fatigue testing led to the issuance of [Canadian] AD CF-2008-21 [which corresponds to FAA AD 2008-24-14], which mandated new inspection requirements to ensure that fatigue cracking of the trunnion web would be detected and corrected.

Additional fatigue test article findings and in-service findings have shown that the trunnion fitting lower flange and both forward and aft bore holes are also subject to fatigue cracking. Failure of the main landing gear trunnion fitting could result in the collapse of the main landing gear. Bombardier Inc. has decided to implement a series of design changes to improve the fatigue life of the trunnion fitting that is now a safe-life assembly.

New and revised Airworthiness Limitation (AWL) tasks for the MLG trunnion fitting assembly have been introduced in order to require new inspection, modification, and safe-life requirements. This [Canadian] AD mandates the incorporation of these new and revised AWL tasks, and removal of the AWL tasks they replace, to ensure that fatigue cracking of the MLG trunnion fitting is detected and corrected. This [Canadian] AD also requires rework of the trunnion fitting in order to meet new structural safe-life limits.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0801.

## **Comments**

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Support for the NPRM**

Air Line Pilots Association, International stated its support for the NPRM.

### **Request to Clarify Compliance Times in Paragraph (l) of the Proposed AD**

Air Wisconsin Airlines requested that we clarify the compliance times for the rework specified in paragraph (l) of the proposed AD. Air Wisconsin Airlines stated that the AWLs do not include requirements to incorporate the service information identified in paragraph (l)(1), (l)(2), and (l)(3) of this AD. Air Wisconsin Airlines added that Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012, would be required only if Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013, is done and therefore there is no requirement to do Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012.

We agree to clarify the compliance times for the rework required by paragraph (l) of this AD. We acknowledge that the compliance times for incorporating the rework are not clear. We note that Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012, is not contingent on whether Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013, is done. As specified in certain AWLs, "SB 601R-57-046 shall be incorporated at or before 34900 flight cycles."

However, we acknowledge that the AWLs do not specify requirements to incorporate Bombardier Service Bulletin 601R-57-047, Revision B, dated October 2, 2012; and Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013. Since the AWLs do not specify compliance times for incorporating that service information, operators would need to accomplish the actions specified in that service information within 2,000 flight cycles after the effective date of this AD.

However, we have determined that the actions specified in Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012; Bombardier Service Bulletin 601R-57-047, Revision B, dated October 2, 2012; and Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013; must be done within the initial compliance times specified in the service information, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later. We have coordinated with TCCA to clarify the compliance times for incorporating the service information. We have added compliance times to paragraphs (l)(1) through (l)(3) of this AD accordingly.

#### **Request to Reword Requirement Paragraph**

Air Wisconsin Airlines requested that paragraph (g) of the proposed AD be reworded to indicate that paragraph (f)(1) of AD 2008-24-14 required incorporation of Bombardier Maintenance Requirements Manual (MRM), CSP A-253, Part 2, Appendix B task AWL 57-21-161, because Temporary Revision (TR) 2B-2136 (Global alternative method of compliance (AMOC) with log #14-83) was superseded by TR 2B-2153 and later incorporated into a general revision of Bombardier Maintenance Requirements Manual (MRM), CSP A-253, Part 2, Appendix B.

We disagree, because the requirements specified in paragraph (g) of this AD are a restatement of the actions required by paragraph (f)(1) of AD 2008-24-14 and are still applicable until the new actions required by paragraph (i) of this AD are done. The FAA cannot impose the latest requirements for a paragraph that has the initial compliance date of AD 2008-24-14 since the latest documents were not available at the time that AD 2008-24-14 became effective. Additionally, paragraph (i) of this AD addresses the commenter's concerns regarding the latest documents. For clarity, we have added a statement to paragraph (i) of this AD to specify that accomplishing the revision required by paragraph (i) of this AD terminates the revision required by paragraph (g) of this AD.

#### **Request to Clarify Compliance Table Reference**

Air Wisconsin Airlines observed that the reference to "table 1 or table 2 to paragraphs (g) and (j) of this AD, as applicable" in paragraph (g) was not in AD 2008-24-14 and therefore is a change to that paragraph, because paragraph (j) is a new requirement of the proposed AD. We infer that the commenter would like us to clarify the inclusion of a reference to "paragraph (j)" within paragraph (g) of the proposed AD.

We agree to clarify the paragraph in question. The inclusion of "paragraph (j)" within paragraph (g) of this AD is merely as part of the designation of one of the tables referenced and has no bearing upon the requirements of paragraph (g) of this AD. 1 CFR parts 8 and 21 require orderly codification of regulations. This means that all elements of an AD, including tables and figures, must be properly designated. A table's designation includes the sequential number of the table, the paragraphs to which it applies, and the location of the table within the AD. The Office of the Federal Register (OFR) requires a

complete designation when a table is cross-referenced. Both of the tables in question are referenced in paragraphs (g) and (j) of this AD, therefore, the correct reference is to “table 1 to paragraphs (g) and (j)” and “table 2 to paragraphs (g) and (j),” as stated in paragraphs (g) and (j) of this AD. We have not changed this AD with regard to table designations.

#### **Request to Reword Compliance Time**

Air Wisconsin Airlines requested that we reword the compliance time statement in paragraph (j)(2) of the proposed AD to specify the compliance time instead of referring to the AWL. The commenter stated that rewording would simplify the paragraph.

We acknowledge the commenter’s request. However, the information is contained in the AWL and we matched the language in the MCAI by referring to the AWL. Unless the language in the MCAI is not enforceable, we generally do not deviate from the MCAI. We have not changed this AD in this regard.

#### **Request to Address Missing Compliance Time**

Bombardier requested that we add paragraph (j)(4) to the proposed AD in order to align with the instructions in paragraph B.3. of the MCAI. Bombardier stated that paragraph (j)(3) of the proposed AD mentions the compliance time for the initial inspection but not for the limitation for AWL 57-21-145 and AWL 57-21-155. Additionally, Air Wisconsin Airlines asked whether our intent in paragraph (j)(3) of the proposed AD was to “speak only to the initial inspections in AWL 57-21-145 and AWL 57-21-155.” We infer Air Wisconsin Airlines is also requesting that we address the

missing compliance time statement for the limitation sections of AWL 57-21-145 and AWL 57-21-155.

We agree with the request to include the information in paragraph B.3. of the MCAI in this AD. The compliance time in paragraph B.3. of the MCAI includes the grace period for both the initial inspection and the limitation sections of the AWLs. We have added paragraph (j)(4) of this AD to address the compliance time for the limitation sections of AWL 57-21-145 and AWL 57-21-155.

#### **Request to Combine “No Alternative Actions or Intervals” Paragraphs**

Air Wisconsin Airlines requested that we consider combining paragraphs (h) and (k) of the proposed AD. The commenter asserted that paragraph (h) of the proposed AD does not restate the requirement of paragraph (f)(2) of AD 2008-24-14.

We do not agree to the request to combine paragraphs (h) and (k) of this AD because the retained and new requirements are addressed separately in this supersedure AD. Paragraph (h) of this AD restates the requirements of paragraph (f)(2) of AD 2008-24-14, with a new exception. Paragraph (h) of this AD applies to the retained action required by paragraph (g) of this AD while paragraph (k) of this AD applies to the new action required by paragraph (i) of this AD. We have not changed this AD in this regard.

#### **Request to Clarify Figure Reference**

Air Wisconsin Airlines requested that we clarify the reference to “the AWLs identified in figure 1 to paragraphs (i) and (o)” in paragraph (o) of the proposed AD. The

commenter remarked that no AWLs are specifically listed in paragraph (o) of the proposed AD.

We agree to clarify the figure reference in paragraph (o) of this AD. The AWLs are specifically listed in figure 1, which is designated “figure 1 to paragraphs (i)(1) and (o).” Paragraphs (i)(1) and (o) both reference that figure. As previously mentioned, OFR requires that the designation of any figure in an AD must include all paragraphs in which it is referenced, and the full designation is required in each reference. The correct designation of the figure in question is “figure 1 to paragraphs (i)(1) and (o),” as referenced in paragraphs (i)(1) and (o) of this AD. We have not changed this AD with regard to figure designations.

#### **Request to Revise Paragraph (l) of the Proposed AD**

Air Wisconsin Airlines requested that we revise paragraph (l) of the proposed AD to state that the compliance time for the limitation section is at the applicable time specified in the applicable AWLs.

As stated previously, we have revised paragraph (l) of this AD to specify the compliance times for the rework. We note that the compliance times for the limitation sections are provided in paragraphs (j)(2) and (j)(4) of this AD. If affected parts are removed and replaced with MLG trunnion, part numbers 601R10068-5 and -6, the inspection and limitation sections compliance times of the affected AWLs start from the installation of the new part numbers 601R10068-5 and -6. After the part replacement, the inspections and limitation sections of AWL 57-21-155 and AWL 57-21-161 still apply.

## **Clarification of Compliance Times**

Where the compliance times for the repetitive inspections and life limits specified in the TRs identified in figure 1 to paragraphs (i)(1) and (o) of this AD specify “landings,” those compliance times are based on the landings of the affected part. The compliance times for the initial inspections are specified in paragraphs (j)(1) and (j)(3) of this AD and those compliance times are based on flight cycles or landings of the airplane. We have clarified the compliance times in paragraphs (i) and (j)(3) of this AD.

## **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

## **Related Service Information under 1 CFR part 51**

Bombardier has issued the following service information.

- Bombardier Service Bulletin 601R-57-046, Revision C, dated

December 20, 2012, describes the cold working of fastener holes in the MLG trunnion fitting, and related investigative and corrective actions.

- Bombardier Service Bulletin 601R-57-047, Revision B, dated October 2, 2012,

describes the installation of forcemate bushings in the MLG trunnion, and related investigative and corrective actions.

- Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013,

describes the cold working of holes on the web of the MLG trunnion, and related investigative and corrective actions.

Bombardier has also issued the following temporary revisions (TRs), which are distinct because they describe different AWL tasks that apply to different Canadair part numbers.

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2237,

dated June 19, 2014. This TR describes AWL task 57-21-145, MLG Mounting Trunnion Fitting Assembly (Pre-SB 601R-57-047).

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2238,

dated June 19, 2014. This TR describes AWL task 57-21-161, MLG Mounting Trunnion Web at WS66 (Pre-SB 601R-57-046 or Pre-SB 601R-57-048).

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2239,

dated June 19, 2014. This TR describes AWL task 57-21-155, MLG Mounting Trunnion Fitting Assembly (Pre-SB 601R-57-046 or Pre-SB 601R-57-048).

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2241,

dated June 19, 2014. This TR describe AWL tasks 57-21-162, MLG Mounting Trunnion Assembly; and 57-21-163, MLG Mounting Trunnion Assembly.

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2242, dated June 19, 2014. This TR removes certain AWL tasks.

- Bombardier Maintenance Requirements Manual Temporary Revision 2B-2246, dated November 7, 2014. This TR describes AWL tasks 57-21-162, MLG Mounting Trunnion Assembly; and 57-21-163, MLG Mounting Trunnion Assembly.

This AD also requires Bombardier Temporary Revision 2B-2136, dated May 1, 2008, to the Bombardier CL-600-2B19 Maintenance Requirements Manual, Part 2, Appendix B—Airworthiness Limitations, which the Director of the Federal Register approved for incorporation by reference as of December 19, 2008 (73 FR 73785, December 4, 2008).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Costs of Compliance**

We estimate that this AD affects 460 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

#### **Estimated costs for required actions**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Retained actions from AD 2008-24-14	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$39,100

New actions	Up to 178 work-hours X \$85 per hour = Up to \$15,130	\$38,928	Up to \$54,058	Up to \$24,866,680
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We have determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

#### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive

(AD) 2008-24-14, Amendment 39-15758 (73 FR 73785, December 4, 2008), and adding the following new AD:

**2019-08-11 Bombardier, Inc.:** Amendment 39-19632; Docket No. FAA-2018-0801; Product Identifier 2017-NM-147-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2008-24-14, Amendment 39-15758 (73 FR 73785, December 4, 2008) (“AD 2008-24-14”).

#### **(c) Applicability**

This AD applies to Bombardier, Inc., Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, certificated in any category, serial numbers 7002 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Reason**

This AD was prompted by reports of cracks on the main landing gear (MLG) trunnion fitting during fatigue testing; the introduction of new airworthiness limitation (AWL) tasks with revised inspection, modification, and safe-life requirements; and a determination that the trunnion fitting lower flange and both forward and aft bore holes are also subject to fatigue cracking. We are issuing this AD to address fatigue cracking of the MLG trunnion fitting. Failure of the MLG trunnion fitting could result in MLG collapse.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Retained Revision of Airworthiness Limitation Section with No Changes**

This paragraph restates the requirements of paragraph (f)(1) of AD 2008-24-14, with no changes. Within 30 days after December 19, 2008 (the effective date of AD 2008-24-14), revise the Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness to incorporate AWL 57-21-161, as identified in Bombardier Temporary Revision 2B-2136, dated May 1, 2008, to the Bombardier CL-600-2B19 Maintenance Requirements Manual, Part 2, Appendix B—Airworthiness Limitations. The initial compliance time for the task starts from the applicable time specified in

table 1 to paragraphs (g) and (j) of this AD or table 2 to paragraphs (g) and (j) of this AD, as applicable. Repeat the inspection thereafter at the applicable interval specified in Bombardier Temporary Revision 2B-2136, dated May 1, 2008.

**Table 1 to paragraphs (g) and (j) - Pre-modsum TC601R15827 airplanes**

<b>If the airplane has accumulated as of December 19, 2008 (the effective date of AD 2008-24-14)—</b>	<b>Then phase in the initial inspection—</b>
23,500 or fewer total flight cycles	Prior to the accumulation of 25,000 total flight cycles.
23,501 to 25,000 total flight cycles	Prior to the accumulation of 26,000 total flight cycles, or within 1,500 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14), whichever occurs first.
25,001 to 26,000 total flight cycles	Prior to the accumulation of 26,500 total flight cycles, or within 1,000 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14), whichever occurs first.
26,001 or more total flight cycles	Within 500 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14).

**Table 2 to paragraphs (g) and (j) - Post-modsum TC601R15827 airplanes**

<b>If the airplane has accumulated as of December 19, 2008 (the effective date of AD 2008-24-14)—</b>	<b>Then phase in the initial inspection—</b>
15,667 or fewer total flight cycles	Prior to the accumulation of 16,667 total flight cycles.
15,668 to 16,667 total flight cycles	Prior to the accumulation of 17,333 total flight cycles, or within 1,000 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14), whichever occurs first.
16,668 to 17,333 total flight cycles	Prior to the accumulation of 17,666 total flight cycles, or within 666 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14), whichever occurs first.
17,334 or more total flight cycles	Within 333 flight cycles after December 19, 2008 (the effective date of AD 2008-24-14).

**(h) Retained No Alternative Actions or Intervals with New Exception**

This paragraph restates the requirements of paragraph (f)(2) of AD 2008-24-14, with a new exception: Except as required by paragraph (i) of this AD, after accomplishing the actions specified in paragraph (g) of this AD, no alternative inspections or inspection intervals may be used unless the inspection or inspection interval is approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (p)(1) of this AD.

**(i) New Requirement of this AD: Revision of Existing Maintenance or Inspection Program**

(1) Within 60 days after the effective date of this AD: Revise the existing maintenance or inspection program, as applicable, by incorporating the AWL tasks specified in figure 1 to paragraphs (i)(1) and (o) of this AD. Except as specified in paragraph (j) of this AD, the initial compliance times for the tasks are at the applicable times specified in the temporary revisions (TRs) identified in figure 1 to paragraphs (i)(1) and (o) of this AD, or within 60 days after the effective date of this AD, whichever occurs later. When the information in AWL tasks identified in the TRs specified in figure 1 to paragraphs (i)(1) and (o) of this AD has been included in the general revisions of Bombardier Maintenance Requirements Manual (MRM), CSP A-053, Part 2, Appendix B, the general revisions may be inserted in the MRM, and the TRs may be removed. Accomplishing the revision required by this paragraph terminates the actions required by paragraph (g) of this AD. Where the compliance times for the repetitive inspections and life limits specified in the TRs identified in figure 1 to paragraphs (i)(1)

and (o) of this AD specify “landings,” those compliance times are based on the landings of the affected part.

**Figure 1 to paragraphs (i)(1) and (o) - AWL Tasks to be Incorporated**

<b>Section Within MRM, CSP A-053, Part 2, Appendix B</b>	<b>AWL Task</b>	<b>TR Number</b>	<b>TR Issue Date</b>
Structural AWLs	57-21-145	TR 2B-2237	June 19, 2014
	57-21-161	TR 2B-2238	June 19, 2014
	57-21-155	TR 2B-2239	June 19, 2014
Structural Life Limits	57-21-162	TR 2B-2246	November 7, 2014
	57-21-163		
Structural Life Limits, High Altitude Airfield Operations (HAAO)	57-21-162	TR 2B-2241	June 19, 2014
	57-21-163		

(2) Within 60 days after the effective date of this AD: Revise the existing maintenance or inspection program, as applicable, by removing the AWL tasks specified in figure 2 to paragraph (i)(2) of this AD.

**Figure 2 to paragraph (i)(2) - AWL Tasks to be Removed**

<b>Section Within MRM, CSP A-053, Part 2, Appendix B</b>	<b>AWL Task</b>	<b>TR Number</b>	<b>TR Issue Date</b>
Structural AWLs	57-21-164	TR 2B-2242	June 19, 2014
	57-21-165		
	57-21-166		

**(j) New Requirement of this AD: Initial Compliance Times for AWL Tasks**

(1) For AWL 57-21-161, the compliance time for the initial inspection of AWL 57-21-161 is as specified in table 1 to paragraphs (g) and (j) of this AD or table 2 to paragraphs (g) and (j) of this AD, as applicable, or within 60 days after the effective date of this AD, whichever occurs later.

(2) For AWL 57-21-161, the compliance time for the limitation section is at the applicable time specified in AWL 57-21-161 or within 2,000 flight cycles after the effective date of this AD, whichever occurs later.

(3) For AWL 57-21-145 and AWL 57-21-155, the compliance times for the initial inspections are at the applicable times specified in AWL 57-21-145 and AWL 57-21-155 or within 2,000 flight cycles after the effective date of this AD, whichever occurs later. Where the compliance times for the initial inspections in the AWLs specify “landings,” those compliance times are based on the landings of the airplane.

(4) For AWL 57-21-145 and AWL 57-21-155, the compliance times for the limitation sections is at the applicable time specified in AWL 57-21-145 and AWL 57-21-155 or within 2,000 flight cycles after the effective date of this AD, whichever occurs later.

**(k) New Requirement of this AD: No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (i) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an AMOC in accordance with the procedures specified in paragraph (p)(1) of this AD.

**(l) New Requirement of this AD: Rework of MLG Trunnion to Meet Structural Safe-Life Limits**

(1) Except as specified in paragraph (m)(1) of this AD: At or before the accumulation of 34,900 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later, rework the MLG trunnion (cold working of fastener holes in the MLG trunnion fitting, and all applicable related investigative and

corrective actions) in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012. Do all applicable related investigative and corrective actions before further flight.

(2) At or before the accumulation of 38,900 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later, rework the MLG trunnion (installation of forcemate bushings in the MLG trunnion, and all applicable related investigative and corrective actions) in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-047, Revision B, dated October 2, 2012. Do all applicable related investigative and corrective actions before further flight.

(3) Except as specified in paragraph (m)(2) of this AD: At or before the accumulation of 34,900 total flight cycles, or within 2,000 flight cycles after the effective date of this AD, whichever occurs later, rework the MLG trunnion (cold work of holes on the web of the MLG trunnion, and all applicable related investigative and corrective actions) in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013. Do all applicable related investigative and corrective actions before further flight.

**(m) Exceptions to Rework Specified in Paragraph (l) of this AD**

(1) For airplanes on which Bombardier Service Bulletin 601R-57-046, Revision A, dated December 21, 2009; or Bombardier Service Bulletin 601R-57-046, Initial Issue, dated July 17, 2009; was accomplished prior to the effective date of this AD: Within 6 months after the effective date of this AD, do Part G of the Accomplishment

Instructions of Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012.

(2) For airplanes on which Bombardier Service Bulletin 601R-57-048, Revision A, dated November 24, 2009; or Bombardier Service Bulletin 601R-57-048, Initial Issue, dated July 17, 2009; was accomplished prior to the effective date of this AD: Within 6 months after the effective date of this AD, do Part C of the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013.

**(n) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraph (l)(1) of this AD, if those actions were performed before the effective date of this AD, using Bombardier Service Bulletin 601R-57-046, Revision B, dated August 24, 2012.

(2) This paragraph provides credit for actions required by paragraph (l)(2) of this AD, if those actions were performed before the effective date of this AD, using the service information specified in paragraph (n)(2)(i) or (n)(2)(ii) of this AD.

(i) Bombardier Service Bulletin 601R-57-047, Revision A, dated February 1, 2012.

(ii) Bombardier Service Bulletin 601R-57-047, Initial Issue, dated June 29, 2011.

(3) This paragraph provides credit for actions required by paragraph (l)(3) of this AD, if those actions were performed before the effective date of this AD, using Bombardier Service Bulletin 601R-57-048, Revision B, dated August 24, 2012.

(4) This paragraph provides credit for actions required by paragraph (m)(1) of this AD, if those actions were performed before the effective date of this AD, using Part G of the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-046, Revision B, dated August 24, 2012.

(5) This paragraph provides credit for actions required by paragraph (m)(2) of this AD, if those actions were performed before the effective date of this AD, using Part C of the Accomplishment Instructions of Bombardier Service Bulletin 601R-57-048, Revision B, dated August 24, 2012.

**(o) Repairs and Alternative Actions or Intervals**

(1) If any damage is found during an inspection required by the AWLs identified in figure 1 to paragraphs (i)(1) and (o) of this AD, repair before further flight using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature. The approved repair instructions must specifically refer to this AD or Canadian AD CF-2017-27, dated August 2, 2017.

(2) Repairs approved by Bombardier, Inc., that deviate from the AWLs identified in figure 1 to paragraphs (i)(1) and (o) of this AD are acceptable methods of compliance if approved by the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature. The approved repair instructions must specifically refer to this AD or Canadian AD CF-2017-27, dated August 2, 2017.

(3) For repairs approved before the effective date of this AD that affect the AWLs identified in figure 1 to paragraphs (i)(1) and (o) of this AD and the approved repair instructions do not specifically refer to Canadian AD CF-2017-27, dated August 2, 2017: Within 6 months of the effective date of this AD, contact the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO Inc., for new or revised limitations or inspection requirements on the repair area and comply with the revised limitations or inspection requirements. The new or revised limitations or inspection requirements must specifically refer to this AD or Canadian AD CF-2017-27, dated August 2, 2017.

(4) Canadian AMOC No. AARDG-2018/A21, dated May 1, 2018, which was approved before the effective date of this AD by TCCA, is an acceptable method of compliance to the corresponding requirements of this AD.

**(p) Other FAA AD Provisions**

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal

inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature. The approved corrective action instructions must specifically refer to this AD or Canadian AD CF-2017-27, dated August 2, 2017.

**(q) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-27, dated August 2, 2017, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0801.

(2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7329; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (r)(5) and (r)(6) of this AD.

**(r) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2237, dated June 19, 2014.

(ii) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2238, dated June 19, 2014.

(iii) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2239, dated June 19, 2014.

(iv) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2241, dated June 19, 2014.

(v) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2242, dated June 19, 2014.

(vi) Bombardier Maintenance Requirements Manual Temporary Revision 2B-2246, dated November 7, 2014.

(vii) Bombardier Service Bulletin 601R-57-046, Revision C, dated December 20, 2012.

(viii) Bombardier Service Bulletin 601R-57-047, Revision B, dated October 2, 2012.

(ix) Bombardier Service Bulletin 601R-57-048, Revision C, dated June 6, 2013.

(4) The following service information was approved for IBR on December 19, 2008 (73 FR 73785, December 4, 2008).

(i) Bombardier Temporary Revision 2B-2136, dated May 1, 2008, to the Bombardier CL-600-2B19 Maintenance Requirements Manual, Part 2, Appendix B—Airworthiness Limitations.

(ii) [Reserved]

(5) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <http://www.bombardier.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Des Moines, Washington, on May 15, 2019.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

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